

**ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)**

STD. 399 (REV. 12/2013)

ECONOMIC IMPACT STATEMENT

DEPARTMENT NAME Department of Forestry and Fire Protection	CONTACT PERSON Josh Cleaver	EMAIL ADDRESS joshua.cleaver@fire.ca.gov	TELEPHONE NUMBER 916-653-5123
DESCRIPTIVE TITLE FROM NOTICE REGISTER OR FORM 400 Requirements for Pipelines Near Environmentally and Ecologically Sensitive Areas			NOTICE FILE NUMBER Z

A. ESTIMATED PRIVATE SECTOR COST IMPACTS *Include calculations and assumptions in the rulemaking record.*

1. Check the appropriate box(es) below to indicate whether this regulation:

- | | |
|--|---|
| <input checked="" type="checkbox"/> a. Impacts business and/or employees | <input type="checkbox"/> e. Imposes reporting requirements |
| <input type="checkbox"/> b. Impacts small businesses | <input type="checkbox"/> f. Imposes prescriptive instead of performance |
| <input checked="" type="checkbox"/> c. Impacts jobs or occupations | <input checked="" type="checkbox"/> g. Impacts individuals |
| <input type="checkbox"/> d. Impacts California competitiveness | <input type="checkbox"/> h. None of the above (Explain below): |

***If any box in Items 1 a through g is checked, complete this Economic Impact Statement.
If box in Item 1.h. is checked, complete the Fiscal Impact Statement as appropriate.***

2. The Office of the State Fire Marshal estimates that the economic impact of this regulation (which includes the fiscal impact) is:
(Agency/Department)

- Below \$10 million
 Between \$10 and \$25 million
 Between \$25 and \$50 million
 Over \$50 million *[If the economic impact is over \$50 million, agencies are required to submit a Standardized Regulatory Impact Assessment as specified in Government Code Section 11346.3(c)]*

3. Enter the total number of businesses impacted: 44

Describe the types of businesses (Include nonprofits): Intrastate pipeline operators with assets near environmental areas in the coast.

Enter the number or percentage of total businesses impacted that are small businesses: 0%

4. Enter the number of businesses that will be created: 0 eliminated: 0

Explain: See Attachment and SRIA

5. Indicate the geographic extent of impacts: Statewide
 Local or regional (List areas): _____

6. Enter the number of jobs created: 1885 and eliminated: 0

Describe the types of jobs or occupations impacted: See Attachment and SRIA

7. Will the regulation affect the ability of California businesses to compete with other states by making it more costly to produce goods or services here? YES NO

If YES, explain briefly: _____

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ECONOMIC IMPACT STATEMENT (CONTINUED)

B. ESTIMATED COSTS *Include calculations and assumptions in the rulemaking record.*

1. What are the total statewide dollar costs that businesses and individuals may incur to comply with this regulation over its lifetime? \$ 220mil (Attach)

a. Initial costs for a small business: \$ 0 Annual ongoing costs: \$ 0 Years: NA

b. Initial costs for a typical business: \$ 0 - 19,000,000 Annual ongoing costs: \$ 100,500,000 Years: 2,3

c. Initial costs for an individual: \$ 0 Annual ongoing costs: \$ 0 Years: NA

d. Describe other economic costs that may occur: See Attachment and SRIA

2. If multiple industries are impacted, enter the share of total costs for each industry: _____

3. If the regulation imposes reporting requirements, enter the annual costs a typical business may incur to comply with these requirements. *Include the dollar costs to do programming, record keeping, reporting, and other paperwork, whether or not the paperwork must be submitted.* \$ 0

4. Will this regulation directly impact housing costs? YES NO
If YES, enter the annual dollar cost per housing unit: \$ _____

Number of units: _____

5. Are there comparable Federal regulations? YES NO

Explain the need for State regulation given the existence or absence of Federal regulations: The State has a unique and fragile environment that requires stringent safety standards on intrastate pipelines to reduce pipeline spill volumes and protect the environment.

Enter any additional costs to businesses and/or individuals that may be due to State - Federal differences: \$ 220,000,000

C. ESTIMATED BENEFITS *Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. Briefly summarize the benefits of the regulation, which may include among others, the health and welfare of California residents, worker safety and the State's environment: See Attachment and SRIA

2. Are the benefits the result of: specific statutory requirements, or goals developed by the agency based on broad statutory authority?

Explain: Adopting regulations to meet Government Code requirements. See Attachment and SRIA

3. What are the total statewide benefits from this regulation over its lifetime? \$ See SRIA and D.3.

4. Briefly describe any expansion of businesses currently doing business within the State of California that would result from this regulation: See Attachment and SRIA

D. ALTERNATIVES TO THE REGULATION *Include calculations and assumptions in the rulemaking record. Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. List alternatives considered and describe them below. If no alternatives were considered, explain why not: See Attachment and SRIA

Alternative 1: Require only automatic shutoff valves

Alternative 2: Require all pipelines to use Realtime Transient Modeling for leak detection

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ECONOMIC IMPACT STATEMENT (CONTINUED)

2. Summarize the total statewide costs and benefits from this regulation and each alternative considered:

Regulation: Benefit: \$ 0 Cost: \$ 220mil (Attach)Alternative 1: Benefit: \$ 0 Cost: \$ 220,880,200Alternative 2: Benefit: \$ 0 Cost: \$ 346,500,000

3. Briefly discuss any quantification issues that are relevant to a comparison of estimated costs and benefits for this regulation or alternatives:

Assumptions were made for number of valves and valve costs, number of pipelines and length of pipeline affected, permit costs, and leak detection system costs. See Attachment/SRIA4. Rulemaking law requires agencies to consider performance standards as an alternative, if a regulation mandates the use of specific technologies or equipment, or prescribes specific actions or procedures. Were performance standards considered to lower compliance costs? YES NOExplain: The proposed regulations do not require the use of specific technologies, equipment, actions, or procedures. The regulation is unique to California and to each intrastate pipeline and is performance based, not prescriptive.**E. MAJOR REGULATIONS** *Include calculations and assumptions in the rulemaking record.****California Environmental Protection Agency (Cal/EPA) boards, offices and departments are required to submit the following (per Health and Safety Code section 57005). Otherwise, skip to E4.***1. Will the estimated costs of this regulation to California business enterprises exceed \$10 million? YES NO***If YES, complete E2. and E3
If NO, skip to E4***

2. Briefly describe each alternative, or combination of alternatives, for which a cost-effectiveness analysis was performed:

Alternative 1: _____

Alternative 2: _____

(Attach additional pages for other alternatives)

3. For the regulation, and each alternative just described, enter the estimated total cost and overall cost-effectiveness ratio:

Regulation: Total Cost \$ _____ Cost-effectiveness ratio: \$ _____

Alternative 1: Total Cost \$ _____ Cost-effectiveness ratio: \$ _____

Alternative 2: Total Cost \$ _____ Cost-effectiveness ratio: \$ _____

4. Will the regulation subject to OAL review have an estimated economic impact to business enterprises and individuals located in or doing business in California exceeding \$50 million in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through 12 months after the major regulation is estimated to be fully implemented?

 YES NO*If YES, agencies are required to submit a Standardized Regulatory Impact Assessment (SRIA) as specified in Government Code Section 11346.3(c) and to include the SRIA in the Initial Statement of Reasons.*

5. Briefly describe the following:

The increase or decrease of investment in the State: The proposed regulation will not have a major impact on California's \$2.6 trillion dollar economy even though operators will make investments in hardware, equipment, and labor. (See attachment)The incentive for innovation in products, materials or processes: The proposed regulation seeks to encourage innovation to reduce spill volumes in the event of a pipeline failure through the use of best available technology. See attachment and SRIA.The benefits of the regulations, including, but not limited to, benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency: In the event of a pipeline failure spill volumes should be reduced resulting in less environmental harm and lower costs. See attachment/SRIA

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FISCAL IMPACT STATEMENT

A. FISCAL EFFECT ON LOCAL GOVERNMENT *Indicate appropriate boxes 1 through 6 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

1. Additional expenditures in the current State Fiscal Year which are reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

\$ 0 _____

a. Funding provided in _____
Budget Act of _____ or Chapter _____, Statutes of _____

b. Funding will be requested in the Governor's Budget Act of _____
Fiscal Year: _____

2. Additional expenditures in the current State Fiscal Year which are NOT reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

\$ 0 _____

Check reason(s) this regulation is not reimbursable and provide the appropriate information:

a. Implements the Federal mandate contained in _____

b. Implements the court mandate set forth by the _____ Court.

Case of: _____ vs. _____

c. Implements a mandate of the people of this State expressed in their approval of Proposition No. _____

Date of Election: _____

d. Issued only in response to a specific request from affected local entity(s).

Local entity(s) affected: _____

e. Will be fully financed from the fees, revenue, etc. from: _____

Authorized by Section: _____ of the _____ Code;

f. Provides for savings to each affected unit of local government which will, at a minimum, offset any additional costs to each;

g. Creates, eliminates, or changes the penalty for a new crime or infraction contained in _____

3. Annual Savings. (approximate)

\$ 0 _____

4. No additional costs or savings. This regulation makes only technical, non-substantive or clarifying changes to current law regulations.

5. No fiscal impact exists. This regulation does not affect any local entity or program.

6. Other. Explain It is not anticipated that the proposed regulations will have a fiscal impact on local government. Some local governments may need to process construction permits but applicants pay those costs.

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FISCAL IMPACT STATEMENT (CONTINUED)

B. FISCAL EFFECT ON STATE GOVERNMENT *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

1. Additional expenditures in the current State Fiscal Year. (Approximate)

\$ 0 _____

It is anticipated that State agencies will:

a. Absorb these additional costs within their existing budgets and resources.

b. Increase the currently authorized budget level for the _____ Fiscal Year

2. Savings in the current State Fiscal Year. (Approximate)

\$ 0 _____

3. No fiscal impact exists. This regulation does not affect any State agency or program.

4. Other. Explain A BCP to increase funding by \$1.137 million beginning in FY 2016-17 was approved by the Legislature.
The program can adjust fees assessed on pipelines to fund the program and may do so in the future if necessary.

C. FISCAL EFFECT ON FEDERAL FUNDING OF STATE PROGRAMS *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

1. Additional expenditures in the current State Fiscal Year. (Approximate)

\$ 0 _____

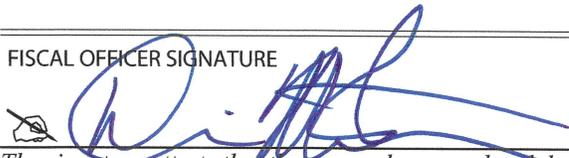
2. Savings in the current State Fiscal Year. (Approximate)

\$ _____

3. No fiscal impact exists. This regulation does not affect any federally funded State agency or program.

4. Other. Explain Approximately 50% of the programs funding comes from federal grants. Our office has been in contact
with the federal agency responsible for dispersing grants and does not anticipate a reduction in allotment.

FISCAL OFFICER SIGNATURE

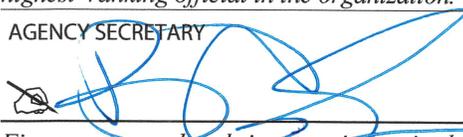


DATE

11/6/18

The signature attests that the agency has completed the STD. 399 according to the instructions in SAM sections 6601-6616, and understands the impacts of the proposed rulemaking. State boards, offices, or departments not under an Agency Secretary must have the form signed by the highest ranking official in the organization.

AGENCY SECRETARY



DATE

10/31/18

Finance approval and signature is required when SAM sections 6601-6616 require completion of Fiscal Impact Statement in the STD. 399.

DEPARTMENT OF FINANCE PROGRAM BUDGET MANAGER



DATE

Attachment to the Economic and Fiscal Impact Statement (Form 399) for:

PROPOSED ADOPTION OF REQUIREMENTS FOR PIPELINES NEAR ENVIRONMENTALLY AND ECOLOGICALLY SENSITIVE AREAS

For a detailed explanation of cost estimates contained in the Economic and Fiscal Impact Statement (Form STD. 399), or this attachment, please see the Standardized Regulatory Impact Assessment (SRIA) or Draft Initial Statement of Reasons.

A. Estimated Private Sector Cost Impacts

A.4. The number of businesses that will be created/eliminated:

The barrier to entry in the hazardous liquid pipeline transportation industry is high. The estimated economic impact of the proposed regulation is not expected to result in the creation or elimination of any pipeline transportation businesses in California.

A.6. Enter the number of jobs created:

The proposed regulations will have an impact on employment creation. The SRIA submitted to the Department of Finance for this rulemaking estimates the creation of 1885 jobs within the first three (3) years of regulatory implementation. Table 1 below was taken from the SRIA and shows the anticipated number of jobs created based on proposed regulatory requirements. No job creation is anticipated after the third year of implementation because most of the proposed regulatory requirements involve planning, permitting, and construction related to retrofitting existing pipeline systems. After the third year, pipeline operators must maintain pipeline systems but are anticipated to do so with existing staff. The estimated number of jobs created was devised using the Regional Input-Output Modeling System II (RIMS II) and North American Industry Classification System (NAICS) to analyze the industries impacted.

Table 1: Employment Impact

Cost Driver Impacting Jobs	2019 Jobs	2020 Jobs	2021 Jobs
Risk Analysis	108	0	0
Leak Detection Systems	0	452	452
Automatic Shutoff Valves	0	17	17
Remote Control Block Valves	0	14	14
Construction Labor	0	351	351
Permitting	109	0	0
Totals Per Year	217	834	834

B. Estimated Costs

B.1. Lifetime statewide dollar costs to businesses and individuals:

The estimated direct cost imposed on businesses by the proposed regulations will be variable. However, an estimate of the total increased cost can be calculated through the additional investments operators may undertake, represented by Δ , based on the model below:

$$\Delta = (V * M * C_v) + (V * M * C_i) + \left(C_l * \left(\frac{P_c}{2} \right) \right) + \left(C_p * \frac{(V * M)}{2} \right) + (C_r * P_t)$$

Where:

V = Valves per mile

M = Total miles of pipe in the coastal zone

C_v = Cost in dollars per valve averaged

C_i = Cost in dollars per valve installation

C_l = Cost in dollars per leak detection system

C_p = Cost in dollars per permit

C_r = Cost in dollars per risk analysis

P_c = Total number of pipelines in the coastal zone

P_t = Total number of pipelines captured by the proposed regulation

$$\begin{aligned} V &= 1.08, & M &= 604, & C_v &= \$13,450, & C_i &= \$100,000, \\ C_l &= \$1,000,000, & C_p &= \$22,500, & C_r &= \$25,000, & P_c &= 253, \\ P_t &= 457; \end{aligned}$$

$$\Delta = \$219,729,400$$

B.1.b. Initial and annual ongoing costs:

The purchase and retrofit of equipment for pipelines can span more than one calendar year, but must be completed within three years of regulatory adoption. Therefore, the OSFM applies the estimated direct cost impact of the proposed regulations over three years with the first year dedicated to research and risk analysis costs totaling \$19,000,000 spread across 457 pipelines and 44 operators (see SRIA Appendix A). The remaining costs are for construction, valve purchase, and other technologies totaling \$201,000,000 that is spread evenly across year two and year three. It is possible that an operator will not need to retrofit a pipeline and therefore no additional costs would be incurred after year one. Information collected by the Office of the State Fire Marshal indicates that maintenance costs are often included in the initial purchase of equipment that may be used for retrofit. Hence, the assumption was made to exclude ongoing costs following initial installation or retrofit.

C. Estimated Benefits

C.1. Brief summary of benefits:

The benefits of the regulations include additional protections to the State's environment, worker safety, health and welfare of California residents, jobs, State GSP, and California businesses. Reduced oil spill volumes prevent environmental damage, pipeline shutdowns, beach closures, fishery closures, and lost profits within and outside of the regulated industry. Costs avoided from cleanup and litigation are significant.

C.2. Benefits are the result of:

Government Code sections 51013, 51013.1, 51015, 51018.6, and 51018.8. Sections 60101, 60104, and 60105, Title 49 of the United States Code.

C.4. Expansion of business in California:

The proposed regulations will require installing best available technologies including hardware and software. Growth is expected in existing businesses in California engaged in construction, manufacturing, testing, and installation of pipeline technologies. Businesses supporting the hazardous liquid pipeline industry are expected to grow significantly due to the need for highly trained individuals. It is not anticipated that this demand will lead to the creation of new businesses because the barrier for entry into the industry is highly specialized and requires extensive training. It is more likely that existing businesses will take on additional capacity.

D. Alternatives to the Regulation

D.1. Alternatives to proposed regulations:

Two alternatives were analyzed in addition to the proposed regulations. Alternative one assumes that all valves installed on pipelines would be automatic shutoff valves (ASV) to meet best available technology (BAT) requirements. This alternative represents only a nominal increase in direct costs but fails to address the possibility that all pipelines are different and require different valves to operate. Nor does it address the pipeline design factors that should be evaluated on a case-by-case basis in risk analyses as directed by statute. If the proposed regulations required only ASVs to be installed the flexibility needed to meet BAT requirements would be effectively frustrated.

Alternative two focuses on leak detection systems (LDS) and would require all pipelines to be equipped with Real Time Transient Monitoring (RTTM). The cost impact to pipeline operators in this alternative would be significant, incurring an additional \$126,500,000 in direct costs. This alternative was dismissed because requiring one specific form of leak detection, such as RTTM, may not represent BAT for all pipelines. In some cases, pipelines may already be equipped with an LDS that would meet BAT requirements, or could easily achieve BAT standards through retrofit of existing systems. Additionally, shorter distance pipelines with a less complex pipeline profile may not need a system like RTTM because an alternative LDS could meet BAT requirements. By mandating RTTM as a required form of technology, regardless of pipeline specific risks, the regulation could be counterproductive and result in poor application to specific pipelines.

D.2. Statewide costs and benefits from this regulation and each alternative considered:

- Regulation – See costs identified in section B.1. above.
- Alternative 1 – This alternative would result in a nominal cost increase of \$880,200 to the estimated \$220,000,000 direct cost. It is possible that installing only ASVs would result in quicker response times and spill volume reduction but requires a pipeline specific calculation to determine the benefit derived. Using the equation in B.1. above $C_v = \$14,800$ in this case:

$$\Delta = \$220,880,200$$

- Alternative 2 – This alternative would result in a significant cost increase of \$126,500,000 in addition to the estimated \$220,000,000 direct cost. Under this alternative all pipelines would have a highly effective and sensitive leak detection system installed and would establish uniformity across industry. However, the benefit of leak detection and uniformity could be detrimental because RTTM may not be BAT for a particular pipeline and could be counterproductive if applied to a pipeline where an alternative LDS is better suited. Using the equation in B.1. above, the portion of the equation written as $\left(C_l * \left(\frac{P_c}{2} \right) \right)$ would be changed to $(C_l * P_c)$. In this case:

$$\Delta = \$346,500,00$$

D.3. Assumptions for estimated costs and benefits of the proposed regulation and alternatives:

All of the values used to assess the cost of the proposed regulation and alternatives can be found in section B.1. above. Inclusive assumptions were made to avoid underestimating the true cost impact.

- V = Valves per mile: Calculated by analyzing a recent application for construction of a pipeline intended to meet the proposed regulatory requirements. The pipeline design calls for 18 valves over 16.6 miles, which equates to 1.08 valves per mile.¹
- M = Total miles of pipe in the coastal zone: Calculated by using internal pipeline data and coastal zone boundary information.
- C_v = Cost in dollars per valve averaged: Calculated by adding the cost of an automatic shutoff valve (ASV) and actuator (\$14,800) and a remote control valve (RCV) and actuator (\$12,100) and dividing the sum by two (2). It was assumed that half the valves would be ASV and the other half RCV. The costs were calculated through data obtained from industry.
- C_i = Cost in dollars per valve installation: Costs were calculated through data obtained from industry.
- C_l = Cost in dollars per leak detection system: Costs were calculated through data obtained from industry.
- C_p = Cost in dollars per permit: Costs were calculated through data obtained from local permitting agencies.
- C_r = Cost in dollars per risk analysis: Costs were calculated through data obtained from industry.
- P_c = Total number of pipelines in the coastal zone: Calculated by using internal pipeline data and coastal zone boundary information.
- P_t = Total number of pipelines captured by the proposed regulation: Calculated by using internal pipeline data.

¹ The proposed pipeline has not yet been approved and may not meet the proposed regulation requirements, however the operator submitted materials stating it intended the pipeline design as submitted to meet anticipated regulatory requirements.

There are several quantification issues relevant to comparison of estimated costs and benefits for this regulation and alternatives. First and foremost, the proposed regulations are focused on protection of environmental resources. Attaching a dollar amount to habitat, recreational days spent at beaches, species harmed or killed by a spill, or economic impacts felt by industry affected by a spill are exceptionally difficult to quantify. Additionally, all pipelines are different in design, product carried, operational pressure, geographic location, and technological limitations. For example, faster shutoff times could correlate to reduced spill volumes, lesser environmental impact, and lower cleanup costs. However, the benefit derived from a spill on one pipeline could be significantly different when compared to another pipeline located in a highly sensitive environmental location that would result in disproportionate impact regardless of spill size. Thus, quantifying the benefit becomes highly challenging. In simple terms the investment of one dollar in the proposed regulatory requirements or alternatives posed does not correlate to a fixed benefit dollar amount. The attached SRIA provides qualitative and to some extent quantitative analysis of past spills and cost impacts of those spills, as well as discussion of potential costs avoided as an anticipated benefit of the proposed regulations.

E. Major Regulations

E.2. Alternatives

Two alternatives were identified for the proposed regulations, see discussion in D.1. above. No other alternatives were brought forward during the public workshops that would achieve the goals of the proposed regulation at a lower cost.

E.5. Increase or decrease of investment in the State:

As modeled in the SRIA, the initial expense by operators will result in an increase in investment on hardware, equipment, and labor. Though the increase in investment will have a nominal impact on California's \$2.6 trillion annual economy, there is no indication that the proposed regulations will negatively affect investment in California.

E.5. Incentive for innovation in products, materials or processes:

The proposed regulation is guided by one of the primary purposes of the authorizing legislation, using BAT to achieve spill volume reduction. BAT is broadly defined as technology that provides the greatest degree of protection by limiting the quantity of release in the event of a spill, taking into consideration whether the processes are currently in use and could be purchased anywhere in the world. The universe of possible applications of BAT is broad, which works in an operator's favor, as no single pipeline is the same and no single technology may be BAT for all applications. This flexibility affords operators and industry the opportunity to innovate and demonstrate combinations of technologies that will best achieve spill volume reduction. It is anticipated that operators will meet the BAT requirements through improving, modifying, supplementing, adapting, or retrofitting existing systems. However, in some cases technologies currently existing on pipelines may not represent BAT even if the foregoing efforts are taken by an operator. The flexibility in achieving compliance will act as a

driver of innovation at implementation and going forward because the proposed regulations require operators to review installed and retrofit BAT every five years.

E.5. Benefits of the regulations:

The proposed regulations seek to reduce spill size and enhance protection of our environment which may require industry to incur additional compliance costs, but will similarly reduce harm resulting in savings to industry, businesses, and individual Californians. The reduction in harm can be considered a cost avoided. Similarly, the proposed regulations confer health, safety, and welfare benefits to California residents, worker safety, and environmental quality through reduction in spill frequency and size. The proposed regulations act to reduce the economic cost of lost use by maintaining access to California's coastal resources, which range from economic, environmental and public safety benefits, tourism, and wildlife viewing. See the SRIA for a comprehensive discussion of benefits.